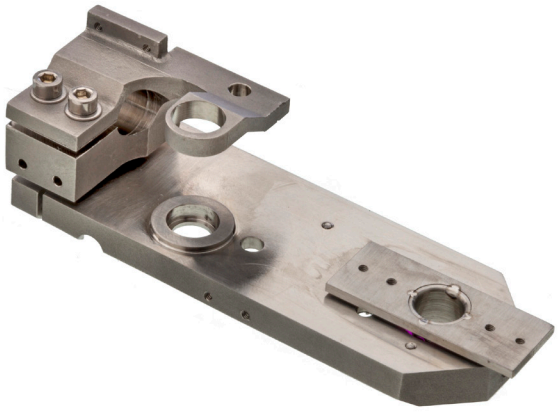
SH1, SH2 & SM2 Sample Holders

The standard SH1 sample mounting module has a relative magnetic permeability of <1.005, making the ideal choice for low energy experimentation.



The sample mounts are the interface between the sample and the movements of the manipulator. They are attached to the tip of rotary drive and provide rotation to the sample and connection for sample services such as heating or cooling.

The drive shafts are supported and pass through the bore of the manipulator to the correct length inside the vacuum chamber to allow the sample to be in position with the analysis equipment or energy beam.

SH1 single axis of rotation about the centre of the manipulator for primary or polar rotation. For this range of sample mount, the polar rotation is actuated via the primary rotary drive mounted on top of the manipulation.

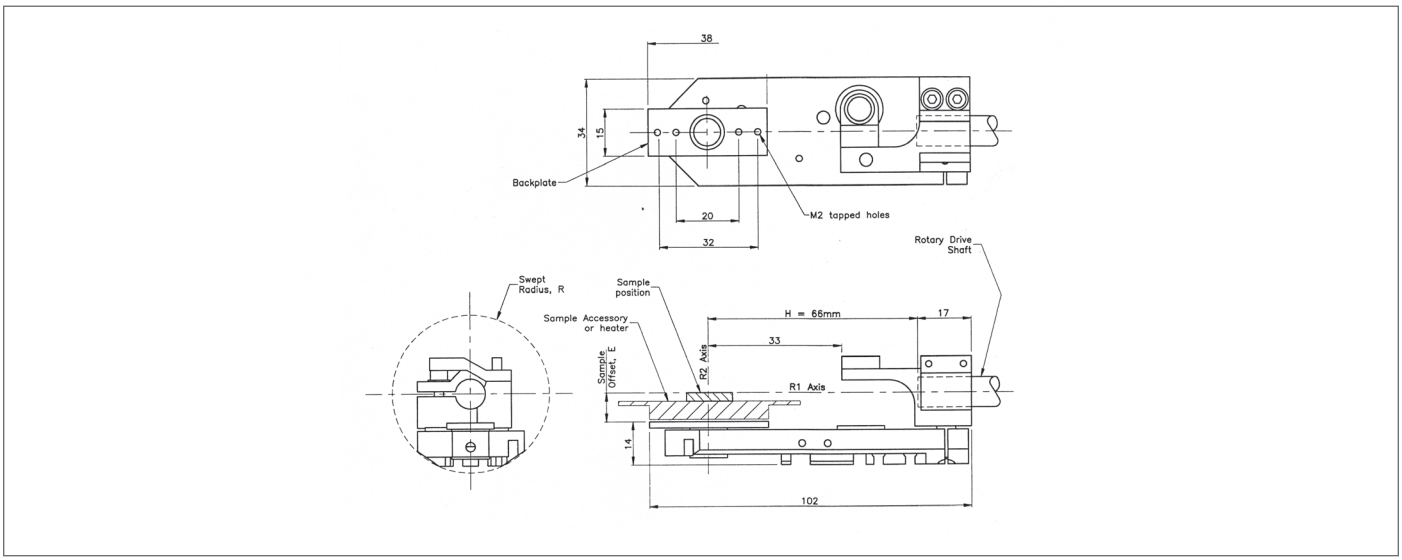
Product Overview

- Relative permeability is <1.005
- Low swept volume
- Samples of varying thickness can be rotated on axis
- Standard Sample Offset, 9 to 12mm (without heater)
- Sample offset with SH1E50 option 9 to 50mm (without heater)
- Primary (R1) Rotation with no services 360°
- Primary (R1) Rotation With services i.e.heating and cooling ±180°
- Swept Radius from 25mm to 38mm depending on additional modules being selected
- Residual Magnetism 10 milli Gauss

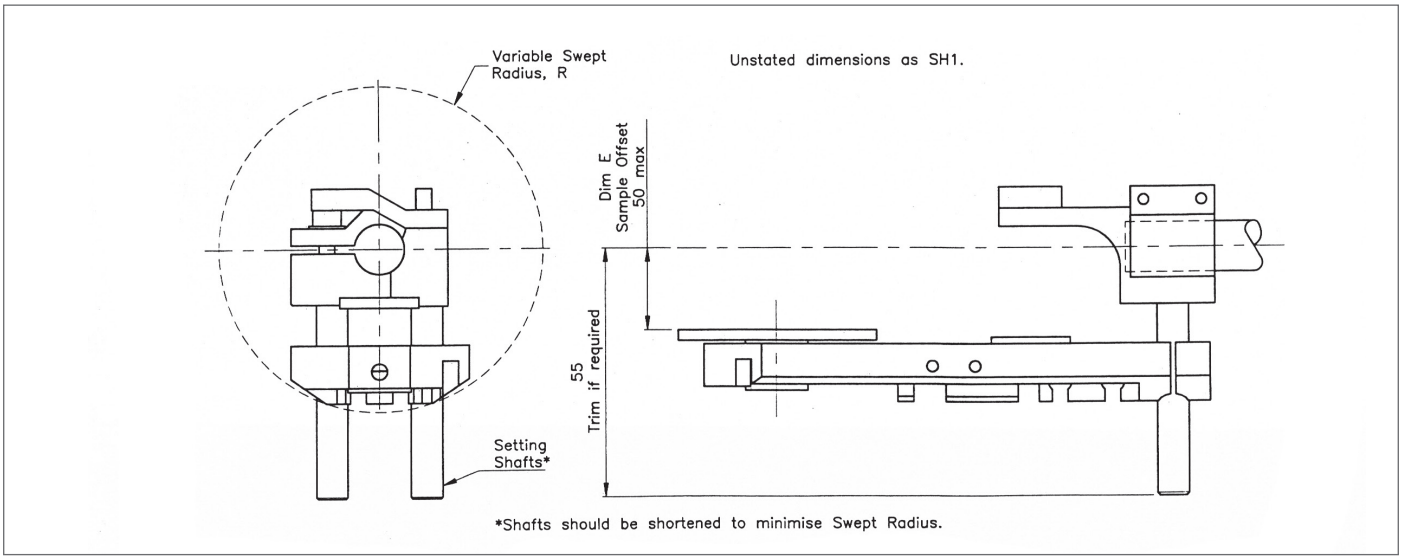
Accepts the following options

- Resistive heater (HST) 950°C option
- EB heater (EBH) 1200°C option
- Cooling (ZLN) -160 option
- 14mm plain accesory where heating/cooling is not required
- 25mm plain accesory where heating/cooling is not required

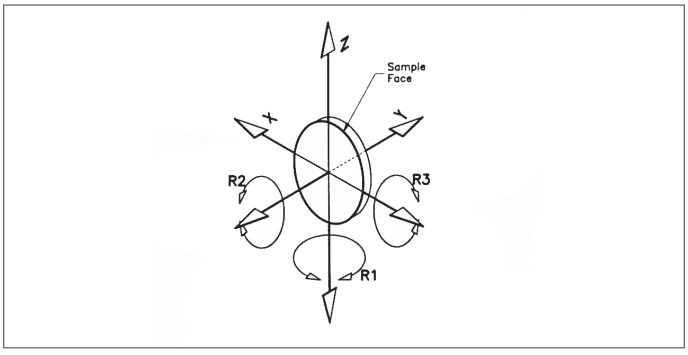
SH1, SH2 & SM2 Sample Holders



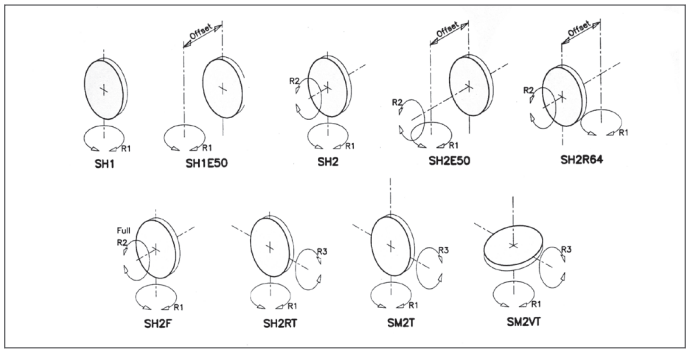
SH1 Sample Holder



Picture showing: SH1E50 Sample holder



Degrees of freedom, primary rotation around Z axis



SH Rotation options

SH1, SH2 & SM2 Sample Holders

Sample Holders - Basic Specifications									
Part code	SH1	SH1E50	SH2	SH2E50	SH2R64	SH2F	SH2RT	SM2T	SM2VT
Rotary Drive Required	RD1	RD1	RD2	RD2	RD2	RD224	RD2	RD2	RD2
Primary (R1) Rotation									
No services	360°	360°	360°	360°	360°	360°	360°	360°	360°
With services	±180°	±180°	±180°	±180°	±180°	±180°	±180°	±180°	±180°
Azimuthal (R2) Rotation									
Preset	±180°	±180°							
Variable			±110°	±110°	±110°	±180°			
Tilt (R3) Rotation							±110°	±10°	±10°
Sample Offset	E	E	E	E	R	E	E	E	E
Bare backplate (mm)	9 to 12	9 to 50	9 to 12	9 to 50	54 to 64	9 to 12	5.5 to 9.5	5.5 to 7.5	5.5 to 7.5
Plain or heater unit (mm)	0 to 3	0 to 41	0 to 3	0 to 41	60 to 66	0 to 3	0 to 2.5	0 to 2.5	0 to 2.5
Swept Radius		From		From					
No services (mm)	25	25 (min)	25	25 (min)	54 to 64	25	31	35	24
With all services (mm)	38	38 (min)	38	38 (min)	54 to 64	38	44	Variable	Variable
Magnetic Permeability	Low	Low	Low	Low	Low	Low	Low	Normal	Normal
'H' dimension (mm)	66	66	66	66	66	103	66	66	66
Temperature Ranges									
Resistive heater (HST)	950°C	950°C	950°C	950°C	950°C	950°C	950°C	950°C	950°C
EB heater (EBH)	1200°C	1200°C	1200°C	1200°C	1200°C	1200°C	1200°C	1200°C	1200°C
Cooling (LN)	-160°C	-160°C	-160°C	-160°C	-140°C	-160°C	-160°C	-160°C	-160°C
Approx. resolution per halfstep of RD motor									
R1 rotation (stepper)	0.01°	0.01°	0.01°	0.01°	0.01°	0.01°	0.01°	0.01°	0.01°
R2 rotation (stepper)	-	-	0.001°	0.001°	0.001°	0.001°	-	-	-
R3 rotation (stepper)	-	-	-	-	-	-	0.001°	0.0001°	0.0001°

The SH1 provides one axis of rotation about the centre of the manipulator.

Two different offset positions available;

a) The SH2E50 will provide move the sample away from the centre axis,

b) The SH2R64 moves the sample position 64mm above the central axis.

As with all the manipulation range, this module is fully compatible for both the heating and cooling modules making it the perfect multidiscipline two axis sample mounting module.

Note: totally non-magnetic version are available